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## PREPARATION OF BUNCHED BEETS CARROTS AND TURNIPS *for* MARKET



**T**HIS BULLETIN describes methods of harvesting, grading, packing, loading, and refrigerating bunched beets, carrots, and turnips practiced by successful shippers.

Well-graded and carefully handled bunched vegetables shipped under proper refrigeration from southern and western producing sections arrive on far-distant markets in a fresh, attractive condition during the winter and spring months.

Careful handling of bunched beets, carrots, and turnips should begin in the field and should be continued through all marketing operations until the product is in the hands of the ultimate consumer.

Rough handling causes breaking, crushing, or bruising of tops and roots and resultant deterioration. This is true whether the rough handling occurs in the field, at the packing shed, in transit, at the jobber's, or at the retailer's store.

This bulletin treats principally of the handling practices in California, Texas, and Louisiana, where the bulk of winter and early spring shipments of these three vegetables originate.

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# PREPARATION OF BUNCHED BEETS, CARROTS, AND TURNIPS FOR MARKET

By WILLIAM E. LEWIS, *agricultural economist, Agricultural Marketing Service*<sup>1</sup>

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## IMPORTANCE OF THE CROPS

CARLOAD SHIPMENTS of bunched vegetables have increased rapidly during the last two decades. Improved methods of handling and better grading practices, together with modern methods of refrigeration and rapid transportation, have greatly increased the consumption of fresh beets, carrots, and turnips. As these vegetables are now usually found on the winter markets and as a great variety of vegetables can now be bought at all times of the year, root vegetables that have been stored are relatively less important than they once were.

The usefulness of root vegetables is not limited to their underground parts. The leaves and stems of many of them are used as potherbs. Beet and turnip tops are most commonly used in this way.

## PRODUCING AREAS

The larger number of the carlot shipments of bunched carrots originate in California, Texas, and Louisiana. Bunched beets are shipped in considerable quantities from the last two States, which also ship a considerable quantity of bunched turnips. Bunched vegetables are shipped in both straight carlots and in mixed carlots, the latter consisting principally of beets and carrots. Many shipments of winter vegetables are also made in less-than-carload lots.

Shipments of bunched vegetables from California are made during every month in the year, the heaviest coming from October to July.

The carlot movement of bunched vegetables from Texas and Louisiana occurs during a period extending from December to June.

<sup>1</sup> This bulletin was first issued by the Bureau of Agricultural Economics. In July 1939, the author and the work on which the bulletin is based were transferred to the Agricultural Marketing Service.



## TYPES AND VARIETIES

The principal varieties of carrots grown commercially for winter shipment are Emperor, Danvers Half Long, and Morse Bunching.

Crosby Egyptian and Detroit Dark Red beets are two of the most common varieties grown for shipment from the Southern States. These beets are round in shape and are of blood-red color.

The Purple Top White Globe turnip is perhaps the most common type grown in the Gulf Coast States. As its name implies, it is of globular shape and has white flesh. The upper portion of the root has a purple skin, and the remainder is white.

## HARVESTING

Bunched vegetables should be packed in shipping containers as soon as possible after being removed from the ground, to lessen the possibility of their wilting and shriveling. As these vegetables generate heat rapidly they should never be left in piles longer than is absolutely necessary. Sometimes vegetables are exposed so long to the hot sun and drying winds that the tops become badly wilted and the roots flabby and shriveled. It is inadvisable to pull or plow up vegetables very far ahead of the bunchers. Large crews are often employed so that the harvesting can be completed rapidly (fig. 1).

Fields are sometimes plowed to loosen the roots from the soil before the vegetables are pulled. A cutter plow may be run between two rows or a cultivator may be used to loosen the soil on the outside of the rows. When the soil is not too heavy, a plow that loosens two to four rows at the same time is sometimes used. Carrots are often irrigated before being harvested. This softens the soil so that they can be pulled without plowing.

Damaged leaves, which may be present on carrots, beets, and turnips, are removed, and the roots are sized, graded, and bunched in the field. Usually the bunches are placed in field boxes and hauled to central packing houses (fig. 2) where there are facilities for properly icing and packing them in suitable containers for market. Successful shippers provide competent foremen in the fields to supervise the grading and packing. Workers are instructed as to the uniform sizing of individual specimens within the bunch and the kind of stock that should be left in the field.

The varieties of carrots called Emperor and Morse Bunching are usually harvested when the roots range in size from  $\frac{5}{8}$  to  $1\frac{3}{4}$  inches (mostly  $\frac{3}{4}$  to  $1\frac{1}{2}$  inches) in diameter. The Danvers Half Long variety generally ranges from  $\frac{7}{8}$  to  $2\frac{1}{4}$  inches (mostly  $1\frac{1}{4}$  to  $1\frac{3}{4}$  inches) in diameter. Carrot roots range from about  $3\frac{1}{2}$  to 10 inches (mostly 5 to 7 inches) in length.

The size of beet roots generally ranges from  $1\frac{1}{4}$  to 3 inches (mostly  $1\frac{3}{4}$  to 2 inches) in diameter.

When harvested for bunching, turnips range from about  $1\frac{3}{4}$  to  $3\frac{1}{2}$  inches (mostly  $2\frac{1}{2}$  to  $2\frac{3}{4}$  inches) in diameter. Sometimes when turnips are marketed principally for their tops, little attention is paid to the minimum size of the roots.

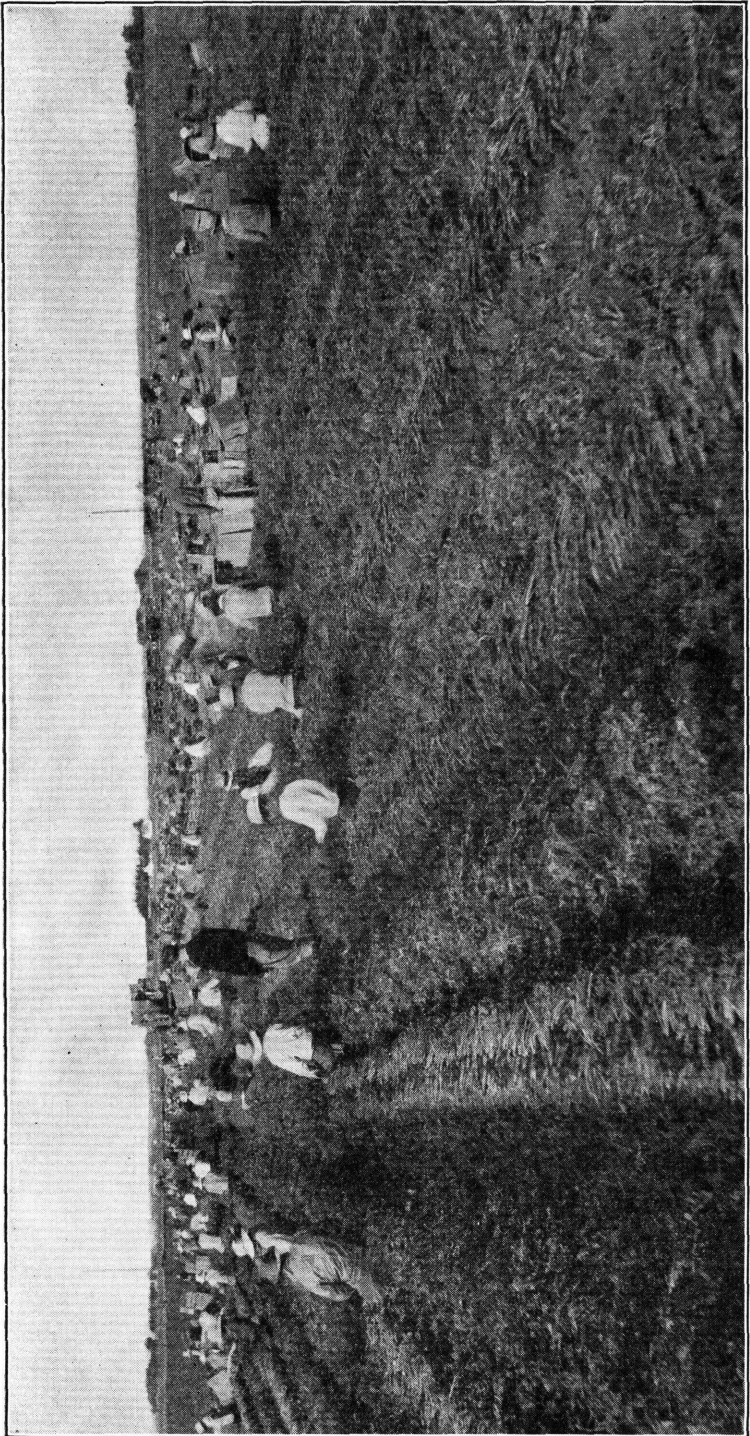


FIGURE 1.—A large crew of workers harvesting carrots.



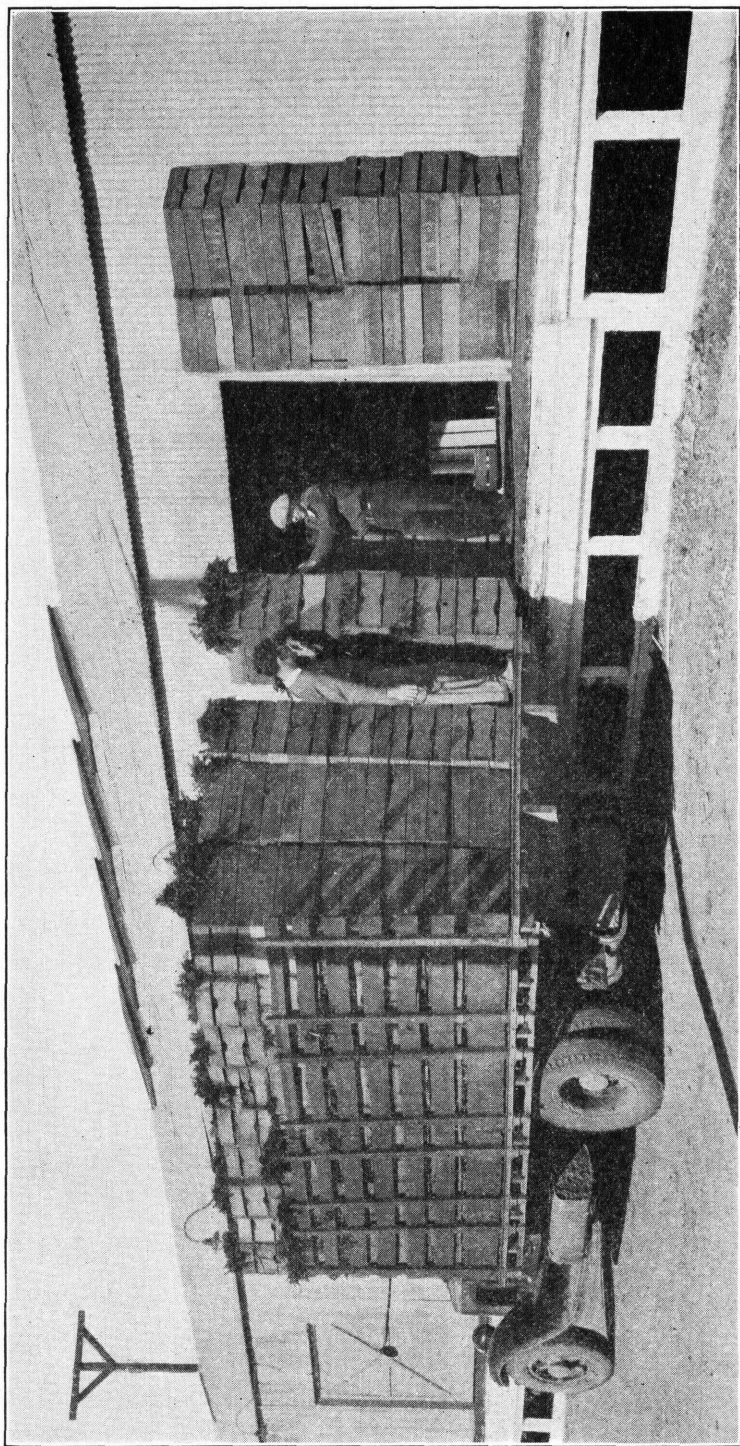


FIGURE 2.—Bunched vegetables being hauled in field boxes to a central packing house to be washed and repacked in clean containers for market.



## GRADING

Standardization of bunched vegetables has progressed rapidly during the last few years. With the realization that ungraded products depress the market and that graded products are always in demand, the more alert growers and shippers are insisting that inferior stock be left at home.

Proper grading and packing of bunched vegetables at various shipping points has gone a long way toward increasing the consumption of these products and, in conjunction with more efficient refrigeration in transit, has widened their distribution to such an extent that fresh bunched vegetables such as beets, carrots, and turnips can now be found on the markets during practically the entire year.

With United States grades for various bunched vegetables as a basis on which to work, greater efforts are being made to put up more attractive packages of products of superior quality, which will have a direct appeal not only to the carlot receiver, the jobber, and the retailer, but to the housewife as well. She it is who must be given important consideration in any scheme that aims to increase the demand for any given food product.

Such factors as the proper sizing of bunches, uniformity of sizing of the individual specimens within the bunch, cleanliness and freshness of stock, the general appearance as affected by growth cracks, worm injury, disease, and the edible quality of the lot, should be considered carefully when appealing to the ultimate consumer (figs. 3 and 4).

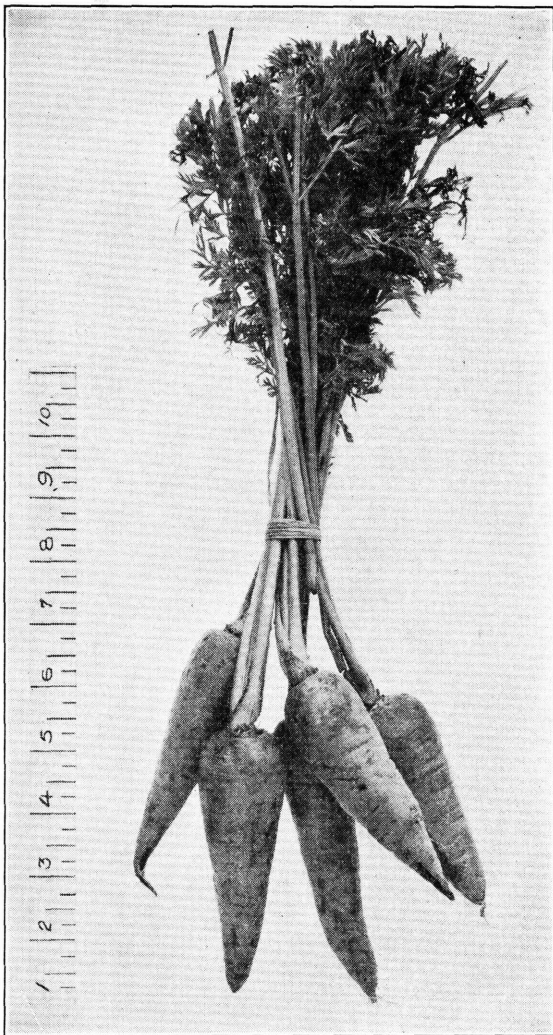


FIGURE 3.—A desirable bunch of carrots. Well-graded and uniformly sized roots present an attractive appearance.

When bunches are irregularly graded and sized (fig. 5) it is to be expected that early retail purchasers will pick over the lot to select the best. The remaining bunches are usually small, poorly graded, and, because of the frequent handling to which they have been subjected, present an unattractive appearance. If all bunches are uniformly graded and well sorted as to size, excessive rehandling with its resultant damage is unnecessary, and the storekeeper is able to dispose of the last of his stock to better advantage.

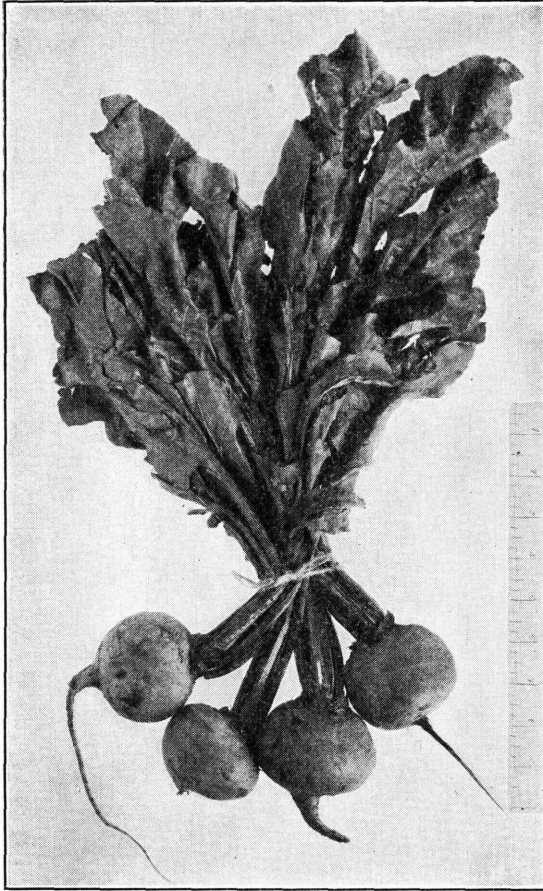


FIGURE 4.—A bunch of well-graded beets, with fresh tops and smooth, uniformly sized roots.

It is true that the grading of bunched vegetables has made great strides in a comparatively short time, but some sections have been slow to change their practices to conform to market demands. As a result much of their former trade is passing to more progressive sections where graded products may be more easily obtained.

Careful handling in harvesting is important when vegetables are to be shipped long distances. The keeping quality of every vegetable is injured by cuts and bruises. Care should be exercised in all handling operations to prevent broken or badly bruised leaves and stems. Such injuries permit the entrance of decay organisms into the plant, and this results in deterioration. Most of these decay organisms cannot enter a sound vegetable with an unbroken skin.

Undersized roots, yellow tops of carrots, and decayed tops of beets are the principal causes for rejection at the terminal markets.

Grading should begin in the field under careful supervision, and a final check should be made at the packing or loading shed. Undersized and badly misshapen roots or those that show deep growth cracks or grub injury should be discarded, and discolored or decayed leaves should be removed (figs. 6 and 7). It is less expensive to remove culls in the field than at the packing shed, and it is far more economical to



remove defective stock at the shipping point than at the receiving market, where labor costs are high and working space is limited.

#### BUNCHING

The most common practice in bunching beets, carrots, or turnips, is to tie together roots of approximately the same size. The weights of individual bunches generally range from 1 to  $1\frac{1}{2}$  pounds, usually from about 1 to  $1\frac{1}{4}$  pounds. The number of roots placed in each bunch depends upon the size of individual specimens, ranging from 3 large carrot roots to about 25 very small roots (most frequently from 5 to 10 roots). The number of beet or turnip roots in each bunch ranges from 3 to 10 (usually 4 to 7 roots). The general plan is to have each bunch weigh about  $1\frac{1}{4}$  pounds regardless of the number of roots in the bunch.

Bunches are tied 2 to 3 inches above the roots with palmetto, raffia, cloth tape, or string.

#### WASHING

Bunched vegetables are usually washed before they are packed. Frequently they are merely rinsed in a tank of water, but when the roots are badly caked with dirt the bunches are often stacked in rows along the packing shed, and a stream of water from a hose is played upon them. Sometimes bunches that are to be washed are stacked in a circle on the platform. This practice is objectionable because the dirt from the bunches on one side of the circle is washed to the bunches on the opposite side. It is a better practice to stack bunched vegetables in straight rows along the platform.

When vegetables are washed in tanks, running water should be used. If this is not practicable, the water should be changed frequently enough to be kept clean. Dirty water spreads the micro-organisms that cause decay and sometimes deposits a sediment on the

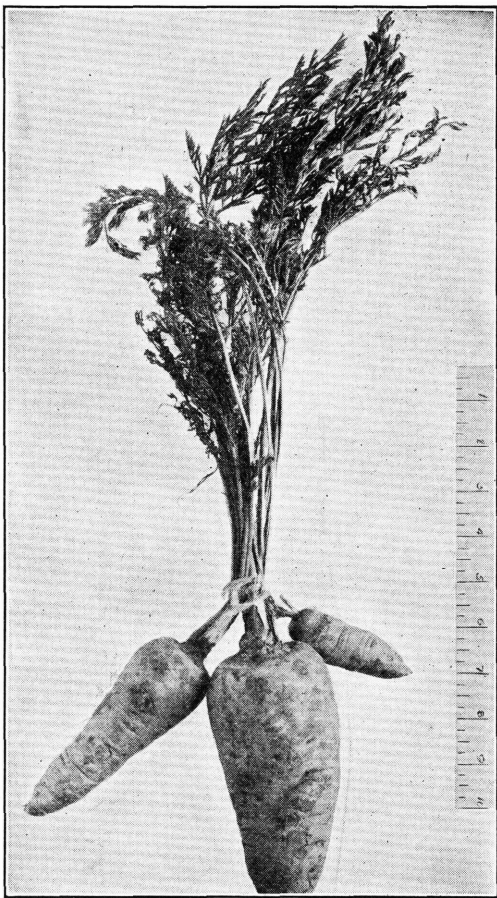


FIGURE 5.—A poorly sized bunch of carrots. The undersized specimen at right should have been discarded in the field.

leaves which may cause the vegetables to have a dirty, unattractive appearance after they have dried. This is particularly objectionable to those consumers who wish to use the tops for greens.

Many packing sheds are equipped with long washing tanks (fig. 8) so arranged that water is sprayed downward with considerable force from jets that are located about a foot above the top of the tanks. In these packing sheds workers at one side of the tank empty field



FIGURE 6.—An undesirable bunch of carrots. Rough, badly misshapen or undersized roots cannot compete with well-graded stock.

boxes of bunched carrots into the tank while workers at the opposite side pick up the bunches and hold them under the jets of water to remove the dirt. These workers then put the bunches in a convenient place for the packers to place in market containers. After each container is packed it is placed on a roller conveyor on which it moves to the lidding machine (fig. 9). At many large packing houses the ends of the cover are forced into place and automatically nailed by a lidding machine, although nailing by hand is a common practice in some sections.

#### PACKING

It is greatly to the advantage of all parties interested in marketing bunched vegetables that proper methods of packing in containers be used. If containers are not well filled

the waste space increases the package cost, and as freight charges are ordinarily based on an estimated per-package weight, the carriers receive pay for more than they actually carry. The vegetables are likely to be shaken and bruised in transit and discriminated against by dealers in the markets on account of their poor appearance. The price penalty paid on account of poor filling is usually much greater than the actual weight shortage warrants.



It is a common practice in packing bunched vegetables in crates to place enough bunches in the container to provide a bulge above the top of the container. When the height of the bulge is not excessive this is a desirable practice. As the natural shrinkage and settling occurs, especially in packages containing ice, the product is held securely in place until the shrinkage is enough to offset the bulge. The extra quantity of produce is more than paid for by the ready sale and better price that can always be obtained for an attractive pack.

Bunched beets, carrots, and turnips are generally packed with full tops.

The large California or western-type crate, as it is sometimes called, is now commonly used for packing bunched winter vegetables in all large producing sections. The half-size western crate is also frequently used. Crates are usually lined with heavy oiled or waxed paper. Two to four pieces of paper are generally used, so placed as to lap over at the top and bottom, completely enclosing the contents after the crate is filled.

Unoled or unwaxed paper should never be used for this purpose, as water from the melting package ice or top ice often weakens the paper to such an extent that the roots break through and protrude between the slats and become broken or bruised.

Sometimes a nail is used to pin the two ends of the wrapping paper together. Occasionally, a packer will fasten the paper by sticking a nail through the paper into a root. Serious objection to this practice was brought out by complaints from the manager of a large chain of restaurants who said that customers reported they had found nails served in their beets. Investigation of unopened crates delivered to these restaurants showed that the packers had placed nails in the beets to hold the paper. When the wrapping paper was removed the nails were often imbedded in the root so that they were not readily noticeable.

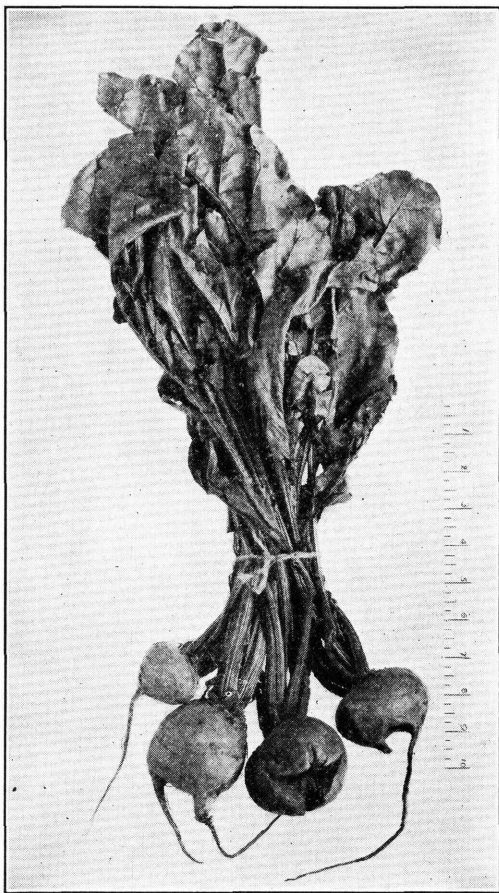


FIGURE 7.—A bunch of cull beets. The specimen at extreme left is undersized and the others are badly misshapen.



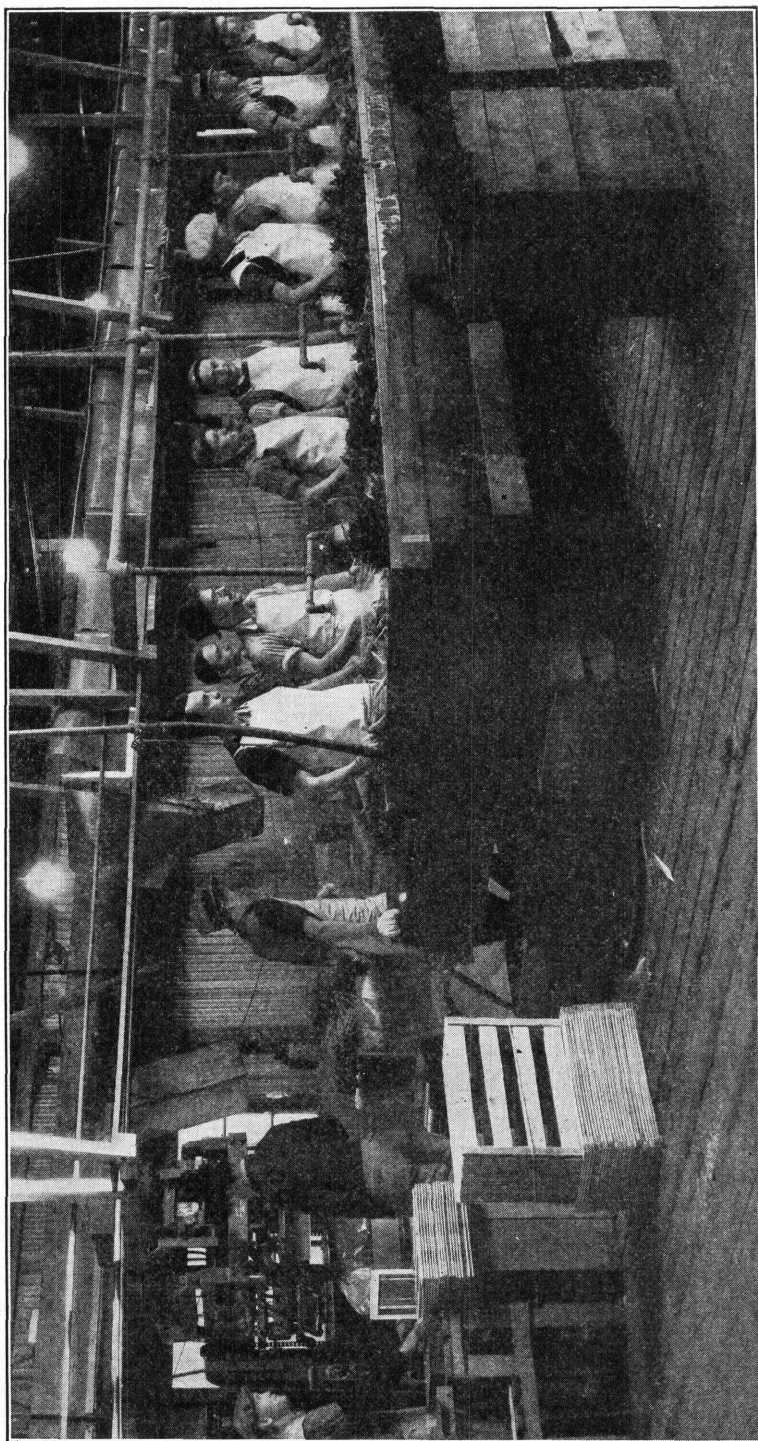


FIGURE 8.—Washing tank in a large modern packing house.



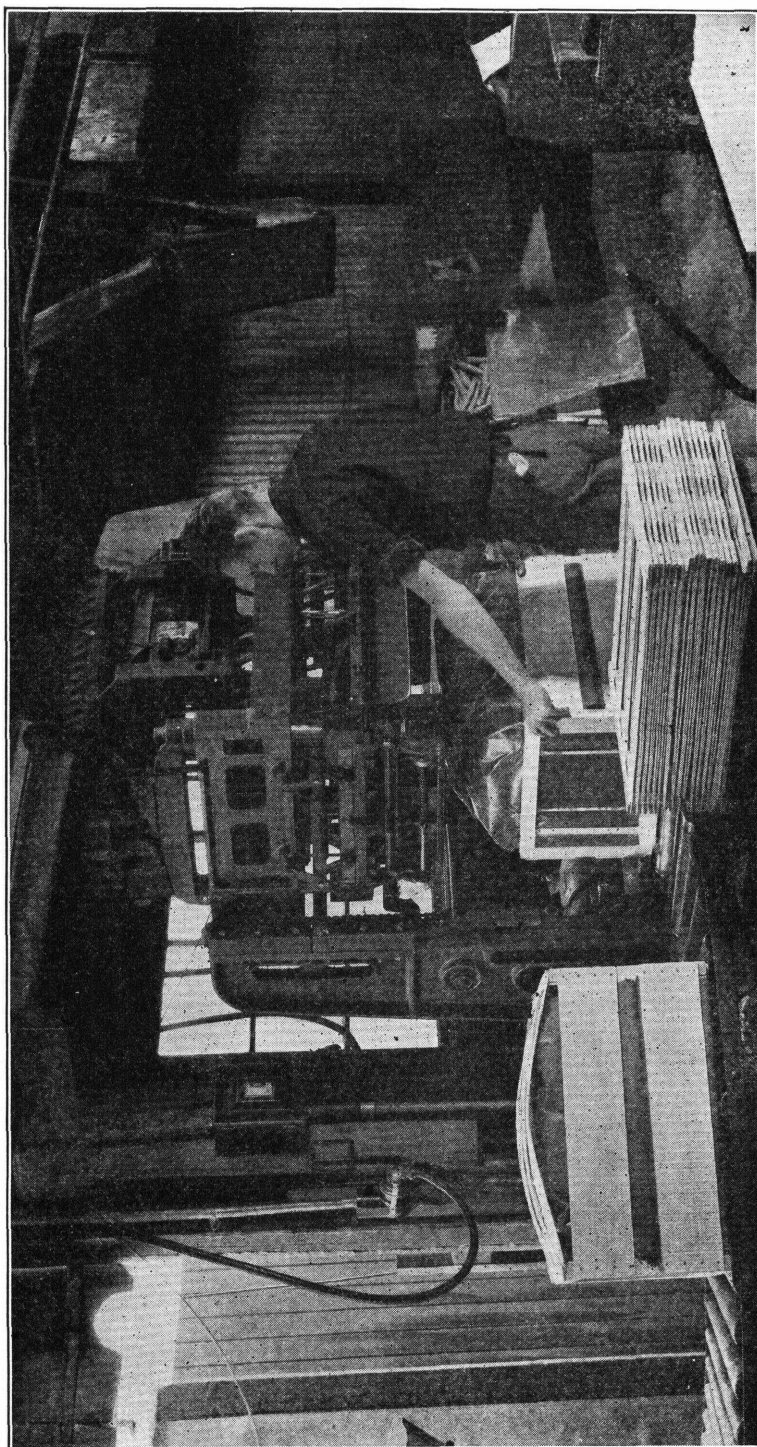


FIGURE 9.—A lidding machine in a large packing house. Some machines not only press down the ends of covers but also automatically nail them in place.

According to a method commonly used in packing the western-type crate, the tops of bunched vegetables are placed toward the ends and the roots in the middle of the crate (fig. 10). About 30 to 50 pounds of crushed ice is placed in full-size crates (fig. 11), and about 15 to 25 pounds is placed in half-size crates. This ice is usually placed between the layers and over the top layer.

Enough bunched vegetables are usually packed in each crate to insure a bulge of 2 to 3 inches (figs. 12 and 13). The size of tops and roots and the quantity of ice in the package generally govern

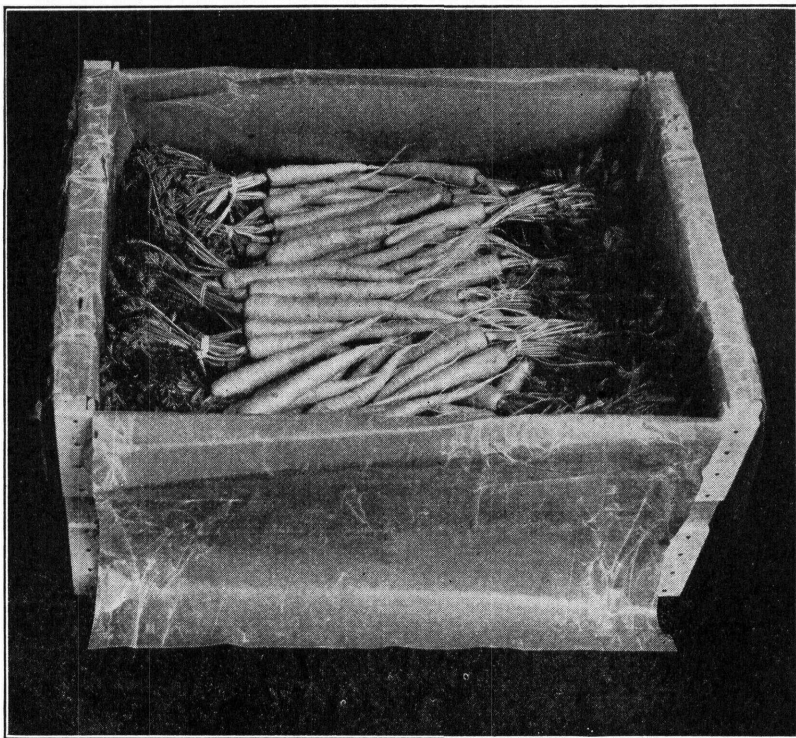


FIGURE 10.—A crate packed with the roots in the middle and the tops toward the ends of the crate.

the number of bunches placed in each container. Commonly four, five, or six dozen bunches of beets or carrots or three and one-half or four dozen bunches of turnips are packed in a full-size western-type crate. Occasionally seven or eight dozen bunches of carrots are packed for short-distance shipment with very little or no ice in the containers. From two and one-half to three and one-half dozen bunches of carrots or beets or two dozen bunches of turnips are packed in the half-size western crate.

#### PACKAGE ICE

Package ice is that ice which is placed inside the container with the vegetables. Crushed or cracked ice is commonly used, the quantity depending to some extent upon weather conditions at both the



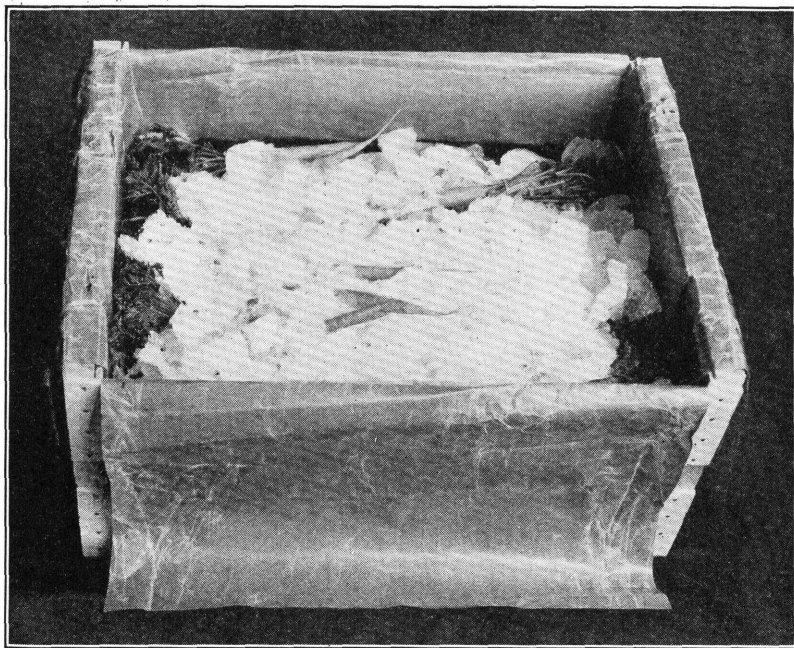


FIGURE 11.—Crushed or cracked ice placed between layers of bunches.

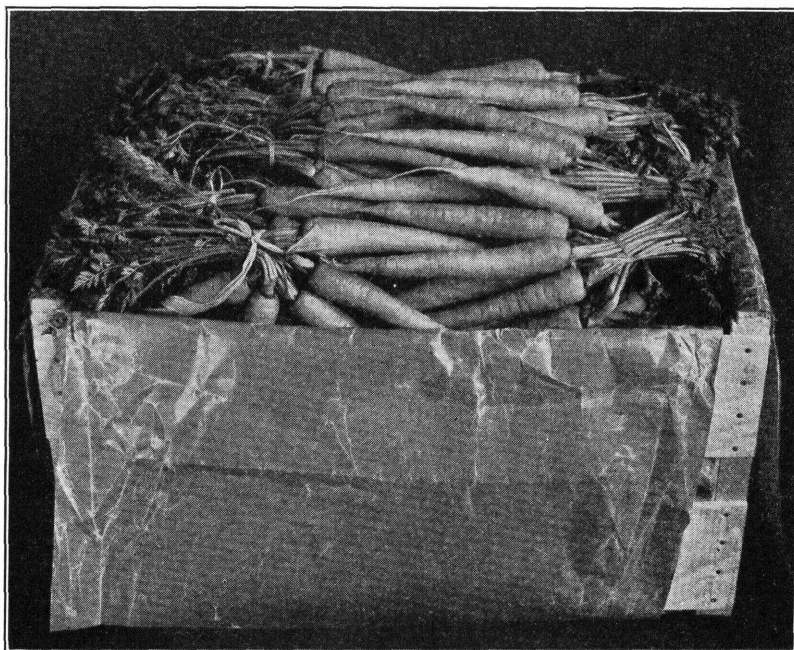


FIGURE 12.—Crates heaped in the usual way with bunched vegetables to provide a bulge of 2 to 3 inches.



shipping point and in transit. More ice is used during hot weather than during cold weather.

The cracked ice should be broken into small pieces, the smaller the better. Large chunks of ice packed in the container are liable to cut or bruise the vegetables when the cover is forced in place, especially when a desirable tight or bulge pack is obtained.

#### CONTAINERS

A shipping container for bunched vegetables should combine strength with lightness, it should be attractive, and it should provide adequate ventilation. It should be light, because no one wishes to pay more freight charges than necessary. It should be attractive

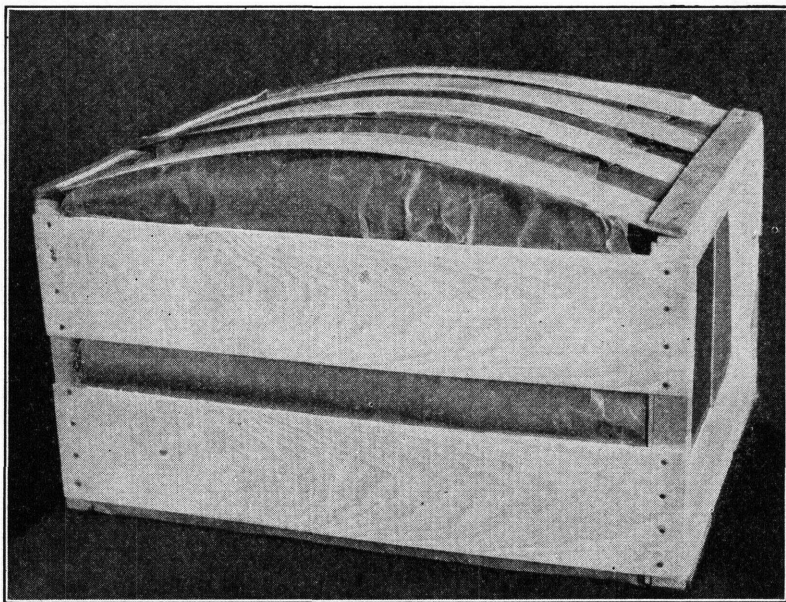


FIGURE 13.—A packed crate of bunched carrots. Oiled or waxed paper completely encloses the contents of the crate.

because a large part of the buying public forms its judgments through its eyes, and the favorable impression created by an attractive package is worth considering. To insure safe arrival at market, adequate refrigeration and proper stowage in the car are necessary. If arrival in good condition is overlooked, the weeks or months of work and care that have gone into the growing of the crop may bring no return.

A container for the shipment of bunched vegetables, properly loaded and under normal conditions, should be strong enough to carry the commodity intact from the grower to the wholesale market and thence to the retailer. Greater strength than this is unnecessary, but too much stress cannot be laid on the importance of buyers insisting that their containers be equal to the task imposed upon them.

The full-size California crate for bunched carrots has the following inside dimensions: 18 by 13 by  $21\frac{1}{8}$  inches. The half-size crate is 9 or  $9\frac{1}{2}$  by 13 by  $21\frac{1}{8}$  inches.

## LOADING

Bunched beets, carrots, and turnips are practically always loaded into refrigerator cars. They should be loaded into the cars as soon as possible after being harvested so as to retain their original freshness. Vegetables that have been exposed to the hot sun or to drying winds for any appreciable length of time often become so wilted that their appearance is severely injured, much of their disease-resistant quality is destroyed, and they are more susceptible to deterioration in transit.

The question of the proper stowing and bracing of containers in carload shipments of vegetables is worthy of careful thought on the part of shippers. That proper loading plays its part in safe arrival is shown by the fact that some shippers obtain satisfactory results from containers with which others have trouble.

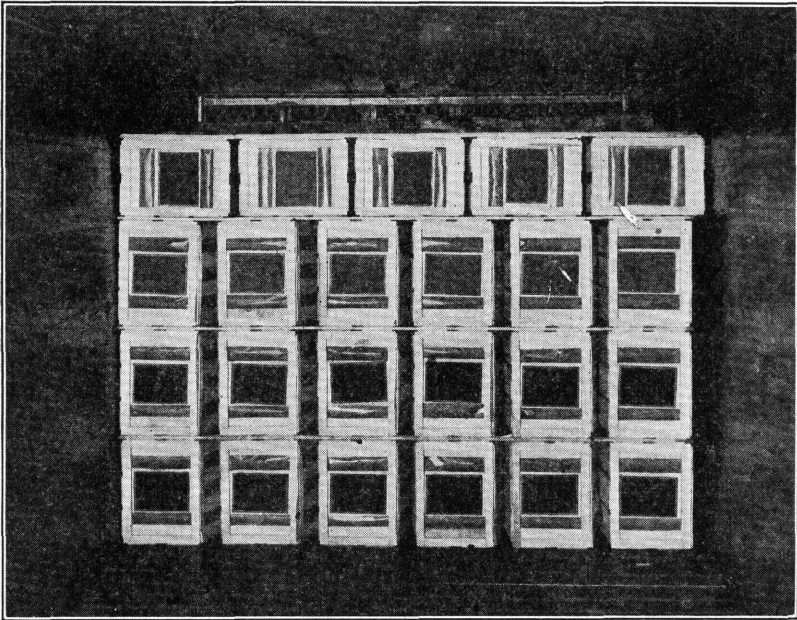


FIGURE 14.—Crates as commonly loaded—four layers high, with the lower three layers on edge and the top layer lying flat. Each layer is strapped to prevent side shifting of the load.

The large western-type crates are usually loaded full length of the car, four layers high. Many shippers place three layers of crates on edge lengthwise of the car, six rows wide, with the fourth or top layer of crates placed flat, five rows wide (fig. 14). There should be even spacing between the rows to permit free circulation of air. The crates should be tightly stacked end to end, and each layer should be strapped and nailed to prevent side shifting.

In Texas and Louisiana, bunched vegetables are commonly shipped in cars with other commodities. Many mixed carlots of beets and carrots are shipped. In California, carrots are generally shipped in straight carlots, and only an occasional car contains other vegetables.



Bunched beets, carrots, and turnips are sometimes shipped in bulk, usually in cars containing several other kinds of vegetables. The following description of a carload of mixed vegetables, taken from a Federal food-products inspection certificate, is an example of this type of loading. The products loaded into the car were 200 dozen bunches of carrots, 100 dozen bunches of beets, 306 dozen bunches of turnips, 62 baskets of collards, 77 baskets of spinach, 29 baskets of mustard, 45 sacks of carrots, 25 sacks of turnips, 11 hampers of potatoes, and cabbage in bulk. In one end the beets, carrots, and turnips were stacked 5 to 6 feet deep (fig. 15), with layers of cracked ice about 12 inches apart. Six rows of baskets of mustard, spinach, and collards were stacked five layers high in the opposite end of the car. The sacked carrots and turnips were then loaded irregularly against the collards, and potatoes were packed on top of the sacks. The remainder of the car was loaded with cabbage in bulk, which was separated by a bulkhead from the bunched vegetables.

When carloads consist of various kinds of vegetables packed in different kinds of containers and in bulk, extreme care should be used to get as tight a loading as possible. Packages should be stacked in a uniform manner, and bulk stock should be separated from containers by suitable bulkheads. Containers of the same size and type are desirable.

#### REFRIGERATION

Bunched vegetables generate heat when confined in closed packages. Often this heating is the cause of shriveling or withering of the roots and the severe wilting of the tops, which permit the entrance of decay organisms. As decay progresses more heat is generated, and as the heat increases the decay organisms increase more rapidly. The result is that bunched vegetables that have not been properly iced sometimes arrive at their destination in a badly decayed condition.

Heating of bunched vegetables in transit and the subsequent deterioration may be controlled by proper refrigeration. Iced refrigerator cars should be requested sufficiently in advance to permit transportation companies to ice the cars several hours before the loading of vegetables is to begin. The purpose of this icing is to lower the car temperature to such a degree that the stock will be kept in a fresh condition. Warm cars delay the lowering of car temperatures and cause both top ice and package ice to melt more rapidly. As a result, at the end of the journey there is considerably less ice within packages and less top ice than there would have been if the vegetables had been loaded into cool cars.

Doors should always be kept closed when cars are not in process of loading. Open doorways permit the entrance of warm outside air, which soon causes the car temperatures to rise. As there is often a considerable melting of ice while loading is in progress, bunkers should be reiced as soon as possible after loading has been completed.

Ice is frequently placed or blown over the top of the load. The quantity of ice used varies according to the weather and the distance to market, generally ranging from 3 to 7 tons, usually about 5 or 6 tons. The practice of blowing crushed or "snow" ice over the top

of the load has grown rapidly during recent years. Bunker ice is sometimes used in addition to top or body ice.

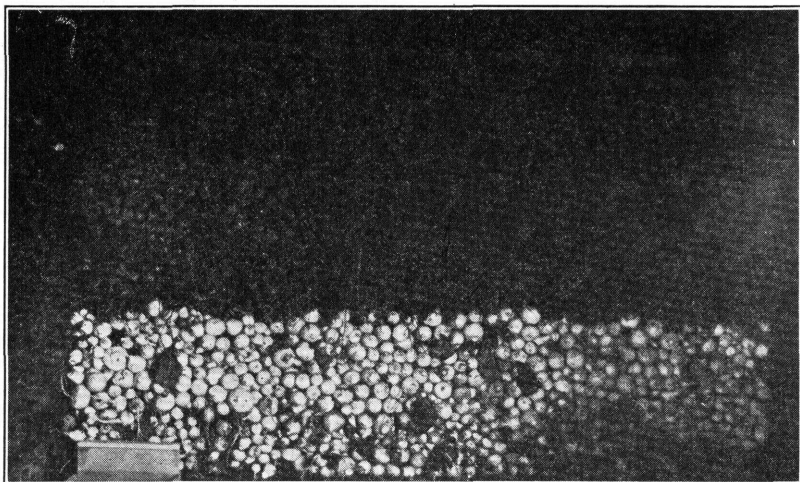


FIGURE 15.—Bunched beets and turnips stacked in bulk against the bunker of a refrigerator car.

#### WHAT DOES THE RECEIVER WANT?

Shippers and growers of fruits and vegetables often think that buyers do not know what they want. This idea is fostered by the varied wishes of different receivers or even of the same receiver at various times. These differences can often be traced to the particular terminal market for which the stock is bought or to the market receiver who has a particular trade to supply.

Some terminal markets are more discriminating and some classes of trade demand better-quality stock than others. It is well known that some markets will take stock of certain sizes or quality that another market will refuse. Even on the same market different receivers have different classes of trade to which they sell their goods.

For example, in New York City there are buyers who cater to the poorer class of trade in the lower East Side section where the poorer-quality fruits and vegetables can be sold to best advantage. There are other dealers on the same market, catering to the high-class hotel and restaurant trade, who are willing to pay a good price for the produce but demand the best quality obtainable.

These varied demands of the receivers emphasize the necessity of properly grading fruits and vegetables. With graded products the best-quality stock may be sold to the best trade, and ordinary-quality stock can be disposed of to the less discriminating trade.

There are other reasons why good grading is demanded by successful dealers. As labor and rental costs in desirable locations are high, dealers must make as rapid a turnover as possible. This means that packages must be ready for customers and that resorting must be held to a minimum. Dealers know the requirements of their trade, and they try to buy goods that meet the demands. Unless the prod-



uct is satisfactory to their customers dealers must make readjustments and allowances or possibly lose some of their business. Dealers want attractive products that sell quickly, that stay sold, and that bring satisfied customers who will give them repeat orders for goods.

Many shippers cannot understand why receivers sometimes accept poor-quality stock without objection whereas at other times they complain of stock that is of far better quality. Often the reason there is no complaint against poor-quality products is that the market is "bare" of the particular commodity; sometimes the reason is that there is nothing but stock of inferior quality on the market.

The early season's prices for various commodities is a good example of this condition. Each year buyers pay high prices for the first cars of various products. Frequently the quality of these shipments is so poor that they would be undesirable on any market later in the season. When the market is plentifully supplied, the receiver either wants stock that will compare favorably in quality and condition with that of his competitors, or he wants stock at discount. If he cannot compete in quality he must compete in price.

The more shippers can learn regarding the requirements of their markets and of the receivers in these markets the better will be their chance of selling to advantage.

#### INSPECTION OF BUNCHED VEGETABLES

Since the establishment of the cooperative Federal-State shipping point inspection service great strides have been made toward the use of standards in the sale of various fruits and vegetables. This has been particularly true of bunched vegetables from the South. Before this service was established growers and shippers often were unable to determine the kind of vegetables that should be classed as culls. When the market price was high almost any quality was accepted by the receivers; but when the market was declining, complaints began to pour in, and there were many rejections. With the assistance of Federal-State inspectors it is now possible for growers and shippers to keep inferior stock down to a minimum, thus reducing rejections and often saving freight on culls.

When the shipping-point inspection service was established, the cull piles began to increase in size. Growers naturally wanted to know why. When the reason was explained they immediately sought remedies. If the trouble was due to faulty growing conditions they sought the help of county agents or other Government agencies. If the trouble was due to rough handling they sought to correct faulty harvesting, grading, and packing practices. There soon followed a pronounced improvement in the quality of stock from that section.

Federal food-products inspectors are located in the principal market centers and will travel reasonable distances to inspect fruits and vegetables on payment of \$4 a car and expenses. An official inspection may be made by the Federal inspection service upon request by the shipper, the receiver, or other financially interested party, and is usually made in case of doubt regarding the quality or condition of the product. A list of addresses of market offices will be furnished free if a request is addressed to the Food-Products Inspection Service, Agricultural Marketing Service, Washington, D. C.

Inspections are usually made on the basis of the United States grades. Copies of these grades can be secured free of charge upon application to the Agricultural Marketing Service, United States Department of Agriculture, Washington, D. C., as well as detailed information concerning Government inspection of fresh fruits and vegetables.

#### SUMMARY

The production of beets, carrots, and turnips for winter and spring shipment as fresh bunched vegetables has increased greatly during the last two decades. Rapid transportation, modern methods of refrigeration, better grading, and more careful harvesting practices have aided in securing wider distribution of these products.

Well-graded bunched beets, carrots, and turnips, which are carefully handled, may now be safely shipped under proper refrigeration, to any part of the United States.

Vegetables for bunching should be placed under refrigeration as soon as possible after being harvested. Exposure to the hot sun or drying winds soon causes the tops to wilt and the roots to become flabby or shriveled.

Bunches should be carefully handled throughout all harvesting, packing, and loading operations. Rough handling often causes broken or crushed roots, stems, and leaves.

Fresh, clean vegetables appeal to the ultimate consumer. Discolored or decayed leaves should be removed, and the vegetables should be thoroughly washed with clean water before they are packed in containers.

The use of neat containers, packed in an attractive way, gives an impression of thoroughness and carefulness in grading and packing operations. On the other hand, broken or dirty containers that have been packed in a slovenly way often give the impression that the product is poorly graded or is of such an inferior quality that the expense of good containers and good packing was not worth while.

A desirable package of bunched vegetables consists of a neat container that is well filled and attractively packed with well-graded vegetables. Bunches should be of fairly uniform size, and the individual specimens within each bunch should be fairly uniform in size. These vegetables should be clean and free from decay, the tops should be fresh and crisp, and the roots should be fairly smooth, well shaped, and in firm condition.

If shippers study the requirements of individual markets and of individual buyers in these markets they will be in a position to secure advantageous distribution of their products.

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